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IN

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From: L. Friedman

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Pages: 29

Phone:

Date: 12/4/02

Re: Ser. No. 10/025,155
Docket No. 7836-84512USC1

CC:

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The following Request for an Interference was included in the 13 March 2002 submission. Another copy is submitted informally pursuant to our telephone conversation this afternoon. Please call me if there are any questions.

Reg No 37,135

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PATENT
7836/84512USC1

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

Applicant: Heinz et al.

Ser. No.: 10/025,155

Filed: 18 December 2001

For: ANTENNA CONTROL SYSTEM

Art Unit: Not Yet Assigned

Examiner: Not Yet Assigned

I hereby certify that this paper is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231, on this date.

13 March 2002
Date

Registration No. 32,135
Attorney for Applicant (s)

REQUEST FOR AN INTERFERENCE WITH A PATENT AND BETWEEN APPLICATIONS

Commissioner for Patents
Washington, D.C. 20231

Sir or Madam:

This is a request, pursuant to 37 C.F.R. 1.607 and 1.604, for an interference between the captioned application (the '155 application) and both U.S. Patent No. 6,239,744 (the '744 patent) and its published continuation application Ser. No. 09/817,268 (the '268 application).

I. 37 C.F.R. 1.607(a)(1) and 1.604(b).

The '744 patent issued on 29 May 2001 for a Remote Tilt Antenna System. It identified Andrew Singer and William Drach as inventors, and Radio Frequency Systems, Inc. of Paris, France as assignee. The '268 application was published (US 2001/0033247 A1) on 25 October 2001. It is identified as a continuation of the application which issued as the '744 patent, and it identified the same inventors as the '744 patent.

II. 37 C.F.R. 1.607(a)(2) and 1.604(a)(1).

A copy of the count proposed by the applicants is attached. It is substantially a disjunctive combination of the pending claims of the '155 applicati n, or a disjunctive combination of claims 1-3, 5, 8-13, 16-21, 25-27, 32-33, 38-40, and 45 of the '744 patent, or a disjunctive combination of the published claims of the '268 application. It is written to read on each of those claims. The claim numbers of the '155 application are inserted in the proposed count for convenience.

The proposed count is in the format approved by the Commissioner in Orikasa v. Oonishi, 10 U.S.P.Q.2d 1996, 2003 (Comm'r 1989), and Davis v. Uke, 27 U.S.P.Q.2d 1180, 1188 (Comm'r 1993). It is noted in particular that, pursuant to the Commissioner's opinion in Orikasa, it is appropriate to use a count of this type where the recited claims are in different statutory classes so long as the subject matter recited in the various claims is not patentably distinct.

III. 37 C.F.R. 1.607(a)(3) and 1.604(a)(2).

All claims in the '744 patent correspond to the proposed count. Indeed, the proposed count reads on 25 of those claims. The other 23 claims of the '744 patent are dependent claims which are not patentably distinct from claims included in the proposed count.

All claims in the publication of the '268 application correspond to the proposed count. Indeed, the proposed count reads on 13 of those published claims. The other 10 published claims are dependent claims which are not patentably distinct from the claims included in the proposed count.

The following chart identifies the claims in the two applications and the patent which are substantially the same.

'155 Application	'744 Patent	'268 Application
22	1	1
23	2	2
24	3	6
25	5	3
26	8	4
27	9	5
28	10	10
29	11	11
30	12	12
31	13	
32	16	
33	17	
34	18	
35	19	
36	20	
37	21	
38	25	
39	26	
40	27	
41	32	
42	33	
43	38	13
44	39	14
45	40	15
46	45	20

IV. 37 C.F.R. 1.607(a)(4).

All presently pending claims of the '155 application (i.e. claims 22 through 46 presented in the 37 C.F.R. 1.607(a)(4) Amendment submitted with this Request) correspond to the proposed count. Indeed, the proposed count reads on all of those claims.

The proposed count reads on the 25 claims of the '744 patent and the 13 claims of the '268 application which are identified in the above chart. Claims 13, 15 and 20 of the '268

application are independent method claims which are the same as the corresponding claims in the '744 patent (and the '155 application) except that certain limitations introduced in the preambles of the latter are introduced later in the claims of the former. The language of claims 13, 15 and 20 of the '268 application is used in the proposed count.

The first twelve claims of the '268 application include a limitation for "a sensor for detecting a position of a down-tilt antenna without respect to a satellite position. In the corresponding first twelve claims of the '744 patent, that limitation is sometimes written as "a sensor for detecting a position of a down-tilt antenna with respect to cell coverage," and sometimes written without the underlined portion. In prosecution of the '744 patent, its applicants added "with respect to cell coverage" to claim 1 when distinguishing prior art detecting an antenna position with respect to a satellite position, and asserted that the amendment "merely makes explicit a characteristic that is inherent in a down-tilt antenna." In claims 22 through 30 of the '155 application, the limitation is copied as "a sensor for detecting a position f a down-tilt antenna with respect to cell coverage and without respect to a satellite position." Therefore, the applicable claims of both the '744 patent and the '268 application read on the copied claims of the '155 application. The limitation is written as "a sensor for detecting a position of a down-tilt antenna" in the proposed count, which consequently reads on all of the included claims listed above.

The 23 claims of the '744 patent and the 10 claims of the '268 application which are not included in the proposed count are all dependent claims, which are not patentably distinct from claims included in the proposed count and therefore correspond to the proposed count. They include obvious variations on disclosed features such as the user interface being remote from a main controller ('744 cl 4, 14-15, 29, '268 cl 7) and communicating over a wireless interface

('744 cl 6, 30, '268 cl 8) or over a telephone line ('744 cl 7, 31, '268 cl 7), using a packet protocol ('744 cl 22-24), or the main controller being at the antenna site rather than remote ('744 cl 28); such as the sensor being one of different known types of sensors ('744 cl 34 (incremental encoder), cl 35 (optical), cl 36 (mechanical brush), cl 37 (hall effect)); and such as repeating certain steps a specified number of times if the antenna controller does not respond ('744 cl 41, 46, '268 cl 16, 21), repeating certain steps for a plurality of antennas ('744 cl 42, 44, 47, '268 cl 17, 19, 22), or reporting errors if controllers do not respond ('744 cl 43, 48, '268 cl 18, 23). These dependent claims all correspond to the proposed count.

V. 37 C.F.R. 1.607(a)(5).

The terms of each of the claims pending in the '155 application (ie the application claims identified as corresponding to the proposed count and not previously pending in the application) can be applied to the disclosure of the application as follows:

Terms of the Claim	Application to the Disclosure of the Application
22. An antenna control system for a land-based mobile radio system comprising:	For example, 1:3-5; 22:1-3. As is known in the art, an antenna control system for a land-based mobile radio system is an antenna system used in cellular communication systems.
a sensor for detecting a position of a down-tilt antenna with respect to cell coverage and without respect to a satellite position;	For example, 11:21-24; 14:4-9; Figs. 5 and 6. Antenna down-tilt is controlled by movement of phase shifters, which is sensed by switch 43 and magnets 44.
an antenna controller communicating with said sensor for controlling said antenna position; and	For example, 15:1-9; Fig. 7. Signals changed by switch 43 are provided to controller 80 for controlling antenna position.
a main controller communicating with said antenna controller in order to control said antenna controller.	For example, 18:1-19. Central controller 89 communicates with controller 80.

Terms of the Claim	Application to the Disclosure of the Application
23. The antenna control system according to claim 22,	
Wherein said main controller is remotely located from said down-tilt antenna.	For example, 18:1-2.

Terms of the Claim	Application to the Disclosure of the Application
24. The antenna control system according to claim 22, further comprising	
a user interface communicating with said main controller to operate said main controller.	For example, 18:20 – 21:9. Central controller 89 may be a PC running windows based software (18:20-22), indicating communication with a user interface. In addition, the cited pages include several references to user interaction as well as to a screen (18:22) and a mouse (20:13).

Terms of the Claim	Application to the Disclosure of the Application
25. The antenna control system according to claim 23,	
Wherein a user interface transmits data to said main controller to position said down-tilt antenna and receives data from said main controller indicating said antenna position.	For example, 19:14 – 20:11.

Terms of the Claim	Application to the Disclosure of the Application
26. The antenna control system according to claim 25,	
Wherein said main controller informs said user interface that said main controller is unable to communicate with said antenna controller.	For example, 20:12-16; 20:17 – 21:4 (eg if reported antenna status remains "queued" and does not proceed to "reading," "measuring," "setting," "nudging" etc.).

Terms of the Claim	Application to the Disclosure of the Application
27. The antenna control system according to claim 25,	
wherein said main controller informs said user interface that it is unable to adjust said antenna position to a desired antenna position.	For example, 20:12-16; 21:4; and 17:29-31 in combination with 18:6-8.

Terms of the Claim	Application to the Disclosure of the Application
28. The antenna control system according to claim 22, further comprising	
an antenna controller memory connected to said antenna controller for storing at least one of an antenna address and said antenna position.	For example, 17:6-7; 17:11-14.

Terms of the Claim	Application to the Disclosure of the Application
29. The antenna control system according to claim 22, further comprising	
a main controller memory connected to said main controller for storing at least one of an antenna address and said antenna position.	For example, 21:10-12.

Terms of the Claim	Application to the Disclosure of the Application
30. The antenna control system according to claim 22, further comprising:	
a motor for adjusting said antenna postion; and	For example, 11:19; Fig. 6 (motor 41).
a driver connected to said motor and said antenna controller for activating said motor.	For example, 6:21-23; Figs. 7 and 8 (driver is in controller 80).

Terms of the Claim	Application to the Disclosure of the Application
31. An antenna control system for controlling a plurality of antennas comprising:	For example, 18:25 – 19:5 is part of a description of a system with multiple antennas.
a plurality of sensors each for detecting positions of a respective one of said antennas;	For example, 11:21-24; 14:4-9; Figs. 5 and 6 re sensor associated with each antenna. Antenna down-tilt is controlled by movement of phase shifters, which is sensed by switch 43 and magnets 44.
a plurality of antenna controllers each communicating with corresponding sensors of said plurality of sensors for controlling a position of said associated antenna; and	For example, 27:3-8 (original claim 21) in combination with 26:20-24 (original claim 18) describes a plurality of antenna systems at a plurality of sites with a plurality of controllers, with each system having the controller communicating with a sensor for detecting an antenna position. For example, see also 6:18-23 where a disclosed antenna system may comprise one antenna (6:19) and a controller (6:21).
a main controller communicating with said antenna controllers in order to control said antenna controllers.	For example, 27:3-8 (original claim 21); 6:28-32 (plurality of centrally controlled systems, 6:29-30).

Terms of the Claim	Application to the Disclosure of the Application
32. The antenna control system according to claim 31 further comprising	
a serial interface connecting said main controller and said antenna controllers.	For example, 18:2-3.

Terms of the Claim	Application to the Disclosure of the Application
33. The antenna control system according to claim 31 further comprising	
a parallel interface connecting said main controller to each of said antenna controllers.	For example, 18:3-6. Radio links or telephone line links between a main controller and each of a plurality of antenna controllers at different physical sites inherently constitute a parallel interface.

T rms of the Claim	Application to the Disclosure of the Applicati n
34. The antenna control system according to claim 31, further comprising	
a wireless communication interface including a plurality of transceivers individually connected to respective antenna controllers of said plurality of antenna controllers and a transceiver connected to said main controller for providing communications between said plurality of antenna controllers and said main controller.	For exampl , 18:4-6. A transceivers is inherent at side of the radio link.

Terms of the Claim	Application to the Disclosure of the Applications
35. The antenna control system according to claim 31, further comprising	
a plurality of antenna controller memories, wherein each antenna controller memory is respectively connected to each of said plurality of antenna controllers for storing at least one of an antenna address and said antenna position.	For example, 27:3-8 (original claim 21) in combination with 26:25-27 (original claim 19); 17:6-7; 17:11-14.

Terms of the Claim	Application to the Disclosure of the Application
36. The antenna control system according to claim 31, further comprising	
a main controller memory connected to said main controller for storing at least one of an antenna address, and said antenna position.	For example, 21:10-12.

Terms of the Claim	Application to the Disclosure of the Application
37. The antenna system according to claim 31, further comprising:	
a plurality of motors each for adjusting said position of the associated antennas; and	For example, 11:19; Fig. 6 (motor 41 for an antenna); 18:25 – 19:5 is part of a description of a system with multiple antennas.
a driver connected to each of said plurality of motors for driving said plurality of motors.	For example, 6:21-23; Figs. 7 and 8 (driver is in controller 80).

Terms of the Claim	Application t the Disclosure of th Application
38. An antenna control system for controlling a plurality of antennas located on a tower, each antenna having a position, said antenna control system comprising:	For example, 1:3-5; 18:25-19:7 is part of a description of a system with multiple antennas; 1:15-17 antennas located on side of building or similar structures (eg a tower).
a plurality of sensors, each sensor associated with one of said plurality of antennas for detecting said antenna positions;	For example, 11:21-24; 14:4-9; Figs. 5 and 6 re sensor associated with each antenna. Antenna down-tilt is controlled by movement of phase shifters, which is sensed by switch 43 and magnets 44.
a plurality of antenna controllers each connected to a respective one of said plurality of sensors for reading said detected antenna positions and for adjusting said antenna positions based on said detected antenna positions; and	For example, 27:3-8 (original claim 21) in combination with 26:20-24 (original claim 18) describes a plurality of antenna systems at a plurality of sites with a plurality of controllers, with each system having the controller communicating with a sensor for detecting antenna position. For example, see also 6:18-23 where a disclosed antenna system may comprise one antenna (6:19) and a controller (6:21). For example, see also 19:8 – 20:11 describing functions such as current angle, new value, adjust, and measure whereby controller is connected to sensor for reading detected antenna position and for adjusting antenna position based on detected antenna position.
a main controller communicating with said plurality of antenna controllers for controlling said plurality of antenna controllers to adjust said antenna positions.	For example, 27:3-8 (original claim 21); 6:28-32 (plurality of centrally controlled systems, 6:29-30).

Terms of the Claim	Application to the Disclsoure of the Application
39. An antenna control system according to claim 38,	
wherein said main controller is remotely located from said plurality of antenna controllers.	For example, 18:1-2.

Terms of the Claim	Application to the Disclosure of the Application
40. An antenna control system according to claim 38,	
wherein said main controller is remotely located from said tower.	For example, 15:5-9 and 18:1-6.

Terms of the Claim	Application to the Disclosure of the Application
41. The antenna control system according to claim 38, further comprising,	
a plurality of motor driving assemblies for adjusting said antenna positions, wherein each of said plurality of motor driving assemblies are controlled by respective ones of said plurality of antenna controllers.	For example, 27:3-8 (original claim 21) in combination with 26:4-9 (original claim 14); Figs. 5 and 6 show parts of an example of a motor driving assembly for adjusting antenna position (Figs. 3 and 4 show part of another example); Figs. 7 and 8 show an example of controller 80 controlling motor 41.

Terms of the Claim	Application to the Disclosure of the Application
42. The antenna control system according to claim 41,	
wherein the motor driving assemblies comprise a gear train of phase shifters to steer radiation emitted from said antennas;	For example, 5:1-22; 10:1-7; Figs. 3 and 4.
a stepper motor to drive said gear train of phase shifters;	For example, 10:28.
a gear shaft disposed between said gear train and said stepper motor; and	For example 10:25-27; see shaft above gear wheel 27 in Fig. 3.
a stepper-motor-driver for powering said stepper motor.	For example, 6:21-23; Figs. 7 and 8 (driver is in controller 80).

Terms of the Claim	Applciati n to the Disclosure of the Application
43. A method of positi ning a down-tilt antenna in an antenna control system used in land-based mobile communications,	For example, 1:3-5; 22:1-3 (cellular communication systems can be land-based mobile communications).
said antenna control system including a main controller, an antenna controller, an antenna motor driver assembly, and a sensor, said method comprising:	For example, central controller 89, antenna controller 80, motor driver assembly such as in Fig. 6, with sensor (magnets 44 and switch 43).
(A) establishing a current position of said down-tilt antenna by;	For example, 19:14-17.
(i) sending an antenna check command to said antenna controller,	For example, 19:16-17 (as current angle is communicated from antenna controller to central controller at start-up, then start-up must include sending a check command to antenna controller signaling that the current angle should be sent to antenna controller).
(ii) reading a tilt position stored in a memory of said antenna controller, and	For example, 17:6-7 (current angle can be stored in memory of antenna controller, from where it may be read for sending to central controller).
(iii) sending the tilt position read from said memory to said main controller; and	For example, 19:14-16.
(B) adjusting the tilt of the down-tilt antenna by;	
(I) sending a change-tilt command to said main controller,	For example, 20:3-5 (with adjust function, user communicates a new angle to central controller).
(ii) calculating a difference between said tilt position and said change-tilt command to determine an antenna adjust command, and	For example, 16:8-15 (based on new angle entered, current angle is altered by motor driven in desired direction for predetermined number of pulses to achieve the new angle – the desired direction and predetermined number of pulses correspond with the difference between the current angle and the new angle, and must be determined).
(iii) sending said antenna adjust command to said antenna motor driver assembly to adjust the tilt of the down-tilt antenna.	For example, 16:8-15 (the desired direction and predetermined number of pulses must be communicated to the motor driver assembly); 18:6-8 (the adjust command may be effected remotely at central controller).

Terms of th Claims	Applicati n to the Disclosure f the Applicati n
44. The method according to claim 43, wherein step (B) further comprises,	
(iv) reading the newly adjusted tilt position of said antenna via said sensor, and	For example, 20:9-11.
(v) writing said newly adjusted tilt position as said tilt position in said memory of said antenna controller.	For example, 17:6-9 (updating memory of antenna controller with actual angle).

Terms of the Claim	Application to the Disclosure of the Application
45. A method of performing a system check on a tilt antenna control system having a main controller, a plurality of antenna controllers, and a user interface, said method comprising:	For example, 27:3-8 (original claim 21) in combination with 26:28 – 27:2 (original claim 20) describes a central controller communicating with a plurality of antenna controllers; 18:20 –21:9 (several references to user interaction as well as to a screen (18:22) and a mouse (20:13), also central controller 89 may be a PC running windows based software (18:20-22), indicating communication with a user interface).
(A) requesting a system check by a user via said user interface;	For example, 19:23-25 and 20:9-11.
(B) transmitting an antenna check command from said main controller to an addressed one of said plurality of antenna controllers;	For example, 20:1-2 (user may specify the addressed antenna). As the actual angle of the antenna will be measured, the command will be transmitted from the central controller (interfacing with the user) to the addressed antenna controller.
(C) returning an antenna position from said addressed antenna controller to said main controller; and	For example, 19:14-16; 17:6-9 in combination with 18:6-8 (actual angle updated in memory, and function may be effected remotely at central controller); 21:10-12 (information – ie actual angle – can be stored and updated at central controller).
(D) determining whether the addressed antenna controller responded.	For example, 20:12-16; 20:17 – 21:4 (eg if reported antenna status remains "queued" and does not proceed to "reading" or "measuring").

Terms of the Claim	Application to the Disclosure of the Application
46. A method of performing a tilt setting change on an antenna system which includes a main controller, a plurality of antenna controllers, a plurality of down-tilt antennas each associated to one of said plurality of antenna controllers, and a user interface, said method comprising:	For exampl , 27:3-8 (original claim 21) in combination with 26:4-9 (original claim 14) describes a central controller communicating with a plurality of antenna controllers, and a plurality of downtilt antennas each associated to one of the antenna controllers; 18:20 –21:9 (several references to user interaction as well as to a screen (18:22) and a mouse (20:13), also central controller 89 may be a PC running windows based software (18:20-22), indicating communication with a user interface).
(A) transmitting a tilt setting change command, selected by a user, from said user interface to said main controller; and	For example, 20:3-5 (with adjust function, user communicates a new angle to central controller).
(B) transmitting a change tilt command combined with an antenna controller address from said main controller to an addressed antenna controller of said plurality of antenna controllers.	For example, 20:1-2 (user may specify the addressed antenna); 18:1-8 (the adjust command may be effected remotely at central controller, but it must be transmitted to the addressed antenna controller to be executed).

VI. 37 C.F.R. 1.607(a)(6).

This Request and the accompanying 37 C.F.R. 1.607(a)(4) Amendment are being submitted prior to one year from the issue date of the '744 patent.

VII. 37 C.F.R. 1.604(a)(3).

An interference should be declared between the '155 application and both the '744 patent and the '268 application because of the interfering subject matter. As discussed in Sections III and IV above, the claims of the '268 application and the corresponding claims of the '744 patent are substantially the same, and they each read on the corresponding claims of the '155 application.

VIII. Request for the Benefit of the Filing Dates of Applicants' Priority Applications.

Applicants claim priority under 35 U.S.C. 120 based upon international application PCT/NZ95/00106, which designated the United States and was filed on 16 October 1995, and under 35 USC 119 based upon New Zealand applications 264864, filed 4 November 1994, and 272778, filed 15 August 1995. Copies of the priority documents, including certified copies of the foreign applications, should be located in the file wrapper of U.S. Patent Application Ser. No. 08/817,445 which issued as U.S. Patent No. 6,198,458 on 6 March 2001. (This was the U.S. national stage application of the PCT application, and was the grandparent of the captioned '155 application. The intervening parent application was filed on 15 November 2000 and issued as U.S. Patent No. 6,346,924 on 12 February 2002.) Applicants are entitled to the benefit of the filing dates of the earlier filed applications for interference purposes if the count reads on at least one adequately disclosed embodiment in an earlier application. Well v. Fritz, 572 F.2d 856, 865-66 n.16, 196 U.S.P.Q. 600, 608 n.16 (CCPA 1978). Applicants meet that standard, assuming that the examiner recommends applicants' proposed count to the Board. The captioned '155 application is a descendant in a line of continuation applications from the PCT application, and the disclosure filed as the captioned application on 18 December 2001 is identical to the disclosure filed as the PCT application on 16 October 1995. Consequently, the application of the terms of the claims to the disclosure in Section V supra is applicable at least to the corresponding parts of the PCT application.

IX. 37 C.F.R. 1.608.

37 C.F.R. 1.608 does not apply because the effective filing date of the captioned '155 application is several years earlier than the 30 June 1999 effective filing date of the '744 patent.

X. Submission of Proposed Form PTO-850.

A proposed Form PTO-850 is submitted for the convenience of the examiner. The applicants request the examiner to call the undersigned at the below-listed telephone number, if there are any other documents or information which will assist the examiner in acting on this request for an interference.

Respectfully submitted,

Date: 13 March 2002

L. Friedman, Reg. No. 37,135

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PROPOSED COUNT FOR HEINZ (Application Ser. No. 10/025,155)
v. SINGER (Pat. No. 6,239,744 and Application Ser. No. 09/817,268)

The claim numbers of the corresponding Heinz claims are added for convenience.

22. An antenna control system for a land-based mobile radio system comprising:

a sensor for detecting a position of a down-tilt antenna;

an antenna controller communicating with said sensor for controlling said antenna position; and

a main controller communicating with said antenna controller in order to control said antenna controller. OR

23. The antenna control system according to claim 22, wherein said main controller is remotely located from said down-tilt antenna. OR

24. The antenna control system according to claim 22, further comprising a user interface communicating with said main controller to operate said main controller. OR

25. The antenna control system according to claim 23, wherein a user interface transmits data to said main controller to position said down-tilt antenna and receives data from said main controller indicating said antenna position. OR

26. The antenna control system according to claim 25, wherein said main controller informs said user interface that said main controller is unable t communicate with said antenna controller. OR

27. The antenna control system according to claim 25, wherein said main controller informs said user interface that it is unable to adjust said antenna position to a desired antenna position. OR

28. The antenna control system according to claim 22, further comprising an antenna controller memory connected to said antenna controller for storing at least one of an antenna address and said antenna position. OR

29. The antenna control system according to claim 22, further comprising a main controller memory connected to said main controller for storing at least one of an antenna address and said antenna position. OR

30. The antenna control system according to claim 22, further comprising:

a motor for adjusting said antenna position; and

a driver connected to said motor and said antenna controller for activating said motor. OR

31. An antenna control system for controlling a plurality of antennas comprising:

a plurality of sensors each for detecting positions of a respective one of said antennas;

a plurality of antenna controllers each communicating with corresponding sensors of said plurality of sensors for controlling a position of said associated antenna; and

a main controller communicating with said antenna controllers in order to control said antenna controllers. OR

32. The antenna control system according to claim 31 further comprising a serial interface connecting said main controller and said antenna controllers. OR

33. The antenna control system according to claim 31 further comprising a parallel interface connecting said main controller to each of said antenna controllers. OR

34. The antenna control system according to claim 31, further comprising a wireless communication interface including a plurality of transceivers individually connected to respective antenna controllers of said plurality of antenna controllers and a transceiver connected to said main controller for providing communications between said plurality of antenna controllers and said main controller. OR

35. The antenna control system according to claim 31, further comprising a plurality of antenna controller memories, wherein each antenna controller memory is respectively connected to each of said plurality of antenna controllers for storing at least one of an antenna address and said antenna position. OR

36. The antenna control system according to claim 31, further comprising a main controller memory connected to said main controller for storing at least one of an antenna address, and said antenna position. OR

37. The antenna system according to claim 31, further comprising:

a plurality of motors each for adjusting said position of the associated antennas; and

a driver connected to each of said plurality of motors for driving said plurality of motors. OR

38. An antenna control system for controlling a plurality of antennas located on a tower, each antenna having a position, said antenna control system comprising:

a plurality of sensors, each sensor associated with one of said plurality of antennas for detecting said antenna positions;

a plurality of antenna controllers each connected to a respective one of said plurality of sensors for reading said detected antenna positions and for adjusting said antenna positions based on said detected antenna positions; and

a main controller communicating with said plurality of antenna controllers for controlling said plurality of antenna controllers to adjust said antenna positions. OR

39. An antenna control system according to claim 38,wherein said main controller is remotely located from said plurality of antenna controllers. OR

40. An antenna control system according to claim 38, wherein said main controller is remotely located from said tower. OR

41. The antenna control system according to claim 38, further comprising, a plurality of motor driving assemblies for adjusting said antenna positions, wherein each of said plurality of motor driving assemblies are controlled by respective ones of said plurality of antenna controllers. OR

42. The antenna c ntrol system according to claim 41, wherein the motor driving assemblies comprise a gear train of phase shifters to steer radiation emitted from said antennas; a stepper motor to drive said gear train f phase shifters; a gear shaft disposed between said gear train and said stepper motor; and a stepper-motor-driver for powering said stepper motor. OR

43. A method of positioning a down-tilt antenna in an antenna control system used in land-based mobile communications, said method comprising the steps of:

(A) establishing a current position of the down-tilt antenna by;

(i) sending an antenna check command to an antenna controller,

(ii) reading a tilt position stored in a memory of the antenna controller, and

(iii) sending the tilt position read from the memory to a main controller; and

(B) adjusting the tilt of the down-tilt antenna by;

(i) sending a change-tilt command to the main controller,

(ii) calculating a difference between the tilt position and the change-tilt command to determine an antenna adjust command, and

(iii) sending the antenna adjust command to an antenna motor driver assembly to adjust the tilt of the down-tilt antenna. OR

44. The method according to claim 43, wherein step (B) further comprises,

(iv) reading the newly adjusted tilt position of the down-tilt antenna via a sensor, and

(v) writing the newly adjusted tilt position as the tilt position in the memory of the antenna controller. OR

45. A method of performing a system check on a tilt antenna control system, said method comprising the steps of:

(A) requesting a system check by a user via a user interface;

(B) transmitting an antenna check command from a main controller to an addressed one of a plurality of antenna controllers;

(C) returning an antenna position from the addressed antenna controller to the main controller; and

(D) determining whether the addressed antenna controller responded. OR

46. A method f performing a tilt setting change on an antenna system, said method comprising the steps of:

(A) transmitting a tilt setting change command, selected by a user, from a user interface to a main controller; and

(B) transmitting a change tilt command combined with an antenna controller address from the main controller to an addressed antenna controller of a plurality of antenna controllers.

Form PTO-850-(Rev. 01-10-2001)	**INTERFERENCE INITIAL MEMORANDUM**	Count #_____

To the Board of Patent Appeals and Interferences:

(Heinz application v. Singer patent and Singer continuation application)

An interference is proposed involving the following two parties—

PARTY	APPLICATION NO.	FILING DATE	PATENT NO., IF ANY	ISSUE DATE, IF ANY
Heinz et al.	10/025,155	18 December 2001		

If the involved case is a patent, have its maintenance fees been paid? Yes ____ No ____ Not due yet _____

Proposed priority benefit (list all intervening applications necessary for continuity):

COUNTRY	APPLICATION NO.	FILING DATE	PATENT NO., IF ANY	ISSUE DATE, IF ANY
U. S.	09/713,614	15 November 2000	6,346,924	12 February 2002
U.S. National Stage International	08/817,445 PCT/NZ95/00106	30 April 1997 16 October 1995	6,198,458	6 March 2001
NZ	272778	15 August 1995		
NZ	264864	4 November 1994		

The claim(s) of this party corresponding to this count: 22 through 46

PATENTED OR PATENTABLE PENDING CLAIMS	UNPATENTABLE PENDING CLAIMS
22 through 46	None

The claim(s) of this party NOT corresponding to this count: None Pending

PATENTED OR PATENTABLE PENDING CLAIMS	UNPATENTABLE PENDING CLAIMS
None	None

PARTY	APPLICATION NO.	FILING DATE	PATENT NO., IF ANY	ISSUE DATE, IF ANY
Singer et al.	09/343,088	30 June 1999	6,239,744	29 May 2001

If the involved case is a patent, have its maintenance fees been paid? Yes ____ No ____ Not due yet ____X____

Proposed priority benefit (list all intervening applications necessary for continuity):

COUNTRY	APPLICATION NO.	FILING DATE	PATENT NO., IF ANY	ISSUE DATE, IF ANY

The claim(s) of this party corresponding to this count: 1 through 48

PATENTED OR PATENTABLE PENDING CLAIMS	UNPATENTABLE PENDING CLAIMS
1 through 48	

The claim(s) of this party NOT corresponding to this count: None

PATENTED OR PATENTABLE PENDING CLAIMS	UNPATENTABLE PENDING CLAIMS
None	None

(Check off each step, if applicable) ***INSTRUCTIONS***

- 1. Obtain all files listed above.
- 2. Confirm that the proposed involved claims are still active and all corrections and entered amendments have been considered. The patents must not be expired for, among other things, failure to pay a maintenance fee (Check PALM screen 2970).
- 3. If one of the involved files is a published application or a patent, check for compliance with 35 U.S.C. 135(b).
- 4. Obtain a certified copy of any foreign benefit documents where necessary (37 CFR 1.55(a)).
- 5. Discuss the proposed interference with an Interference Practice Specialist in your Technology Center.

DATE	PRIMARY EXAMINER (signature)	ART UNIT	TELEPHONE NO.

DATE	INTERFERENCE PRACTICE SPECIALIST or TECHNOLOGY CENTER DIRECTOR (signature)	TELEPHONE NO.

				Page ____ of ____

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To: Examiner Hoang Nguyen
Unit 2821, PTO

From: L. Friedman

Fax: 703-308-7722

Pages: 28

Phone:

Date: 12/4/02

Re: Ser. No. 10/025,155

CC:

Docket No. 7836-84512USC1

☐ **Urgent** ☐ **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

The following Request for an Interference was included in the 13 March2002 submission. Another copy is submitted informally pursuant to our telephone conversationthis afternoon. Please call me if there are any questions.

Reg No 37,135

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Form PTO-850-(Rev. 01-10-2001)

INTERFERENCE INITIAL MEMORANDUM

Count #_____

To the Board of Patent Appeals and Interferences:

(Heinz application v. Singer patent and Singer continuation application)

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PARTY	APPLICATION NO.	FILING DATE	PATENT NO., IF ANY	ISSUE DATE, IF ANY
Heinz et al.	10/025,155	18 December 2001		

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Proposed priority benefit (list all intervening applications necessary for continuity):

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NZ	264864	4 November 1994		

The claim(s) of this party corresponding to this count: 22 through 46

PATENTED OR PATENTABLE PENDING CLAIMS	UNPATENTABLE PENDING CLAIMS
22 through 46	None

The claim(s) of this party NOT corresponding to this count: None Pending

PATENTED OR PATENTABLE PENDING CLAIMS	UNPATENTABLE PENDING CLAIMS
None	None

PARTY	APPLICATION NO.	FILING DATE	PATENT NO., IF ANY	ISSUE DATE, IF ANY
Singer et al.	09/817,268	27 March 2001		

If the involved case is a patent, have its maintenance fees been paid? Yes ___ No ___ Not due yet ___

Proposed priority benefit (list all intervening applications necessary for continuity):

COUNTRY	APPLICATION NO.	FILING DATE	PATENT NO., IF ANY	ISSUE DATE, IF ANY
U.S.	09/343,088	30 June 1999	6,239,744	29 May 2001

The claim(s) of this party corresponding to this count: 1 through 23

PATENTED OR PATENTABLE PENDING CLAIMS	UNPATENTABLE PENDING CLAIMS

The claim(s) of this party NOT corresponding to this count: None

PATENTED OR PATENTABLE PENDING CLAIMS	UNPATENTABLE PENDING CLAIMS
None	None

(Check off each step, if applicable) ***INSTRUCTIONS***

- 1. Obtain all files listed above.
- 2. Confirm that the proposed involved claims are still active and all corrections and entered amendments have been considered. The patents must not be expired for, among other things, failure to pay a maintenance fee (Check PALM screen 2970).
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DATE	PRIMARY EXAMINER (signature)	ART UNIT	TELEPHONE NO.

DATE	INTERFERENCE PRACTICE SPECIALIST or TECHNOLOGY CENTER DIRECTOR (signature)	TELEPHONE NO.
		Page ___ of ___

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Fax:	703-308-7722	**Pages:**	29
Phone:		**Date:**	12/4/02
Re:	Ser. No. 10/025,155 Docket No. 7836-84512USC1	**CC:**	

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Reg No 37,125

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